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**Declarations under Rule 4.17:**

- *as to the identity of the inventor (Rule 4.17(i)) for all designations*
- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*

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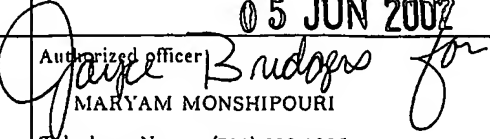
WO 02/002050 A3

(54) Title: PREVENTION AND TREATMENT OF MYCOPLASMA-ASSOCIATED DISEASES

(57) Abstract: The present invention relates to the prevention and treatment of diseases associated with undesirable cell proliferation, including atherosclerotic narrowing of blood vessels and malignancy, comprising preventing or treating infection by mycoplasma. It is based, at least in part, on the discovery that, in many cases, mycoplasma infection exists coincident with undesirable cell proliferation and/or proliferation of other infectious organisms.

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/BR01/00083

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC(7) : A01N 25/00; A61K 47/00, 38/47, 38/51, 38/52, 38/53 US CL : 514/789; 424/94.61, 94.5 According to International Patent Classification (IPC) or to both national classification and IPC																				
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) U.S. : 514/789; 424/94.61, 94.5 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI, BRS/EAST																				
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>																				
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.																		
Y	NEYROLLES et al. Identification of Two Glycosylated Components of Mycoplasma penetrans: a Surface-Exposed Capsular Polysaccharide and Glycolipid Fraction. Microbiology. May 1998, Vol. 144, pages 1247-1255, see abstract and page 1248.	1-5, 7-9, 11, 13-14																		
Y	BASEMAN et al. Sialic Acid Residues Mediate Mycoplasma pneumoniae Attachment to Human and Sheep Erythrocytes. Infection And Immunity. October 1982, Vol. 38, No.1, pages 389-391, see the entire article specially page 389.	1-5, 7-9, 11, 13-14																		
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.																				
<table border="0"> <tr> <td>* Special categories of cited documents:</td> <td>"T"</td> <td>later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"X"</td> <td>document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"E" earlier document published on or after the international filing date</td> <td>"Y"</td> <td>document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Z"</td> <td>document member of the same patent family</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td></td> <td></td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> <td></td> </tr> </table>			* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"E" earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Z"	document member of the same patent family	"O" document referring to an oral disclosure, use, exhibition or other means			"P" document published prior to the international filing date but later than the priority date claimed		
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"O" document referring to an oral disclosure, use, exhibition or other means																				
"P" document published prior to the international filing date but later than the priority date claimed																				
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Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230		Authorized officer  MARYAM MONSHIPOURI Telephone No. (703) 308-1235																		

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/BR01/00083

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	ROBERTS et al. Sialic Acid-Dependent Adhesion of Mycoplasma pneumoniae to Purified Glycoproteins. J. Biol. Chem. 05 June 1989, Vol. 264, No. 16, pages 9289-9293, see the entire article specially the abstract	1-5, 8, 11

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/BR01/00088

**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐

The additional search fees were accompanied by the applicant's protest.

☒

No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/BR01/00063

## BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING

This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1.

**Group I**, claim(s) 1-8, 11-15, drawn to an enzyme having activities from the group consisting of :trans-sialidase, neuraminidase and a combination thereof, compositions comprising said enzyme for treatment of increased cell proliferation, methods of treating cell proliferation using said composition.

**Group II**, claim(s) 1-10, drawn to said enzyme, compositions comprising said enzyme for the treatment of a disorder characterized by coinfection with mycoplasma and a second microbe.

the special technical feature of Group I invention is treating a disorder characterized by increased cell proliferation which is distinct from an enzyme having neuraminidase and trans-sialidase activity or combination thereof and a composition comprising said enzyme for treating a disorder characterized by coinfection with mycoplasma and a second microbe, which is the special technical feature of Group II invention. Further, cell proliferation disorder could occur independently of infection with mycoplasma and a second microbe disorder.